Noncirrhotic Portal Hypertension and Pancreaticogastric Fistula Complicating Acute Pancreatitis With Fluid Collections

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INTRODUCTION

Noncirrhotic portal hypertension constitutes an increase in pressure of the portal venous system in the absence of cirrhosis. This is a rare condition; however, it is insufficiently acknowledged given its decreased prevalence in North America and Europe compared to other nations. We present a rare case of noncirrhotic portal hypertension and pancreatico-gastric fistula complicating acute pancreatitis with an acute fluid collection and resultant portal vein narrowing.

CASE DESCRIPTION

A 55-year-old man with history of alcohol use disorder presented to the emergency department with worsening abdominal pain two weeks after discharge for uncomplicated acute pancreatitis. Lipase was 48 IU/L (normal 11-82 IU/L). CT abdomen showed increasing peripancreatic fluid collection with marked narrowing of the main portal vein, which appeared near threadlike, and narrowing of the bifurcation of the portal vein extending into the left portal vein. The splenic vein was also severely narrowed (Figure 1A).

He was discharged home with outpatient follow-up, however, returned to the ED for intractable pain one month later. A CT abdomen showed florid changes of pancreatitis with pseudocyst formation with new foci of air within the collection concerning for fistulous tract formation with the gastric lumen (Figure 1B). The portal vein and splenic vein narrowing improved, but the narrowing of the right and left portal veins worsened.

He underwent upper endoscopy which showed a small area of white "milky" base in the posterior wall of the incisura angularis which was suggestive of fistulous opening in the area (Figure 1C). Four columns of small distal esophageal varices were also noted.

During admission, paracentesis was performed for ascites. Serum ascites albumin gradient was over 1.1 consistent with ascites due to portal hypertension – likely due to the portal vein narrowing. Patient was discharged in stable, improved condition.

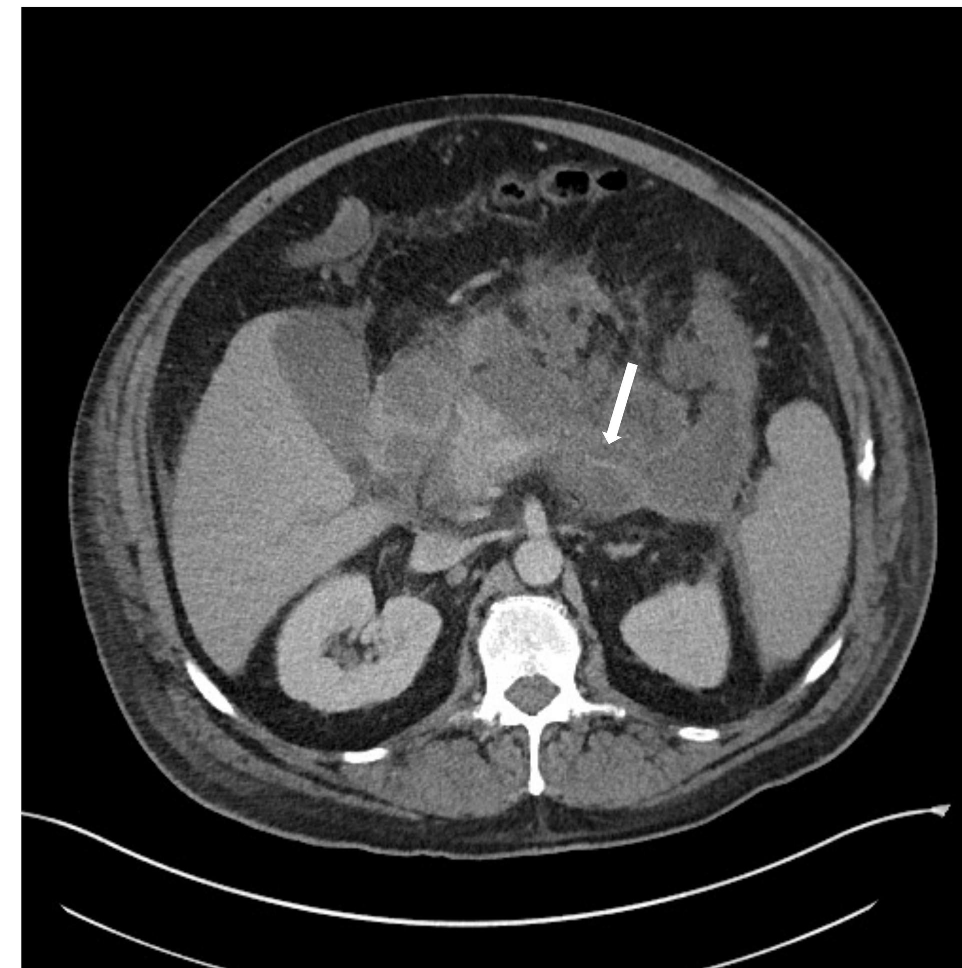

Figure 1A

Contrast CT abdomen showing marked narrowing of the main portal vein, which appears near threadlike.

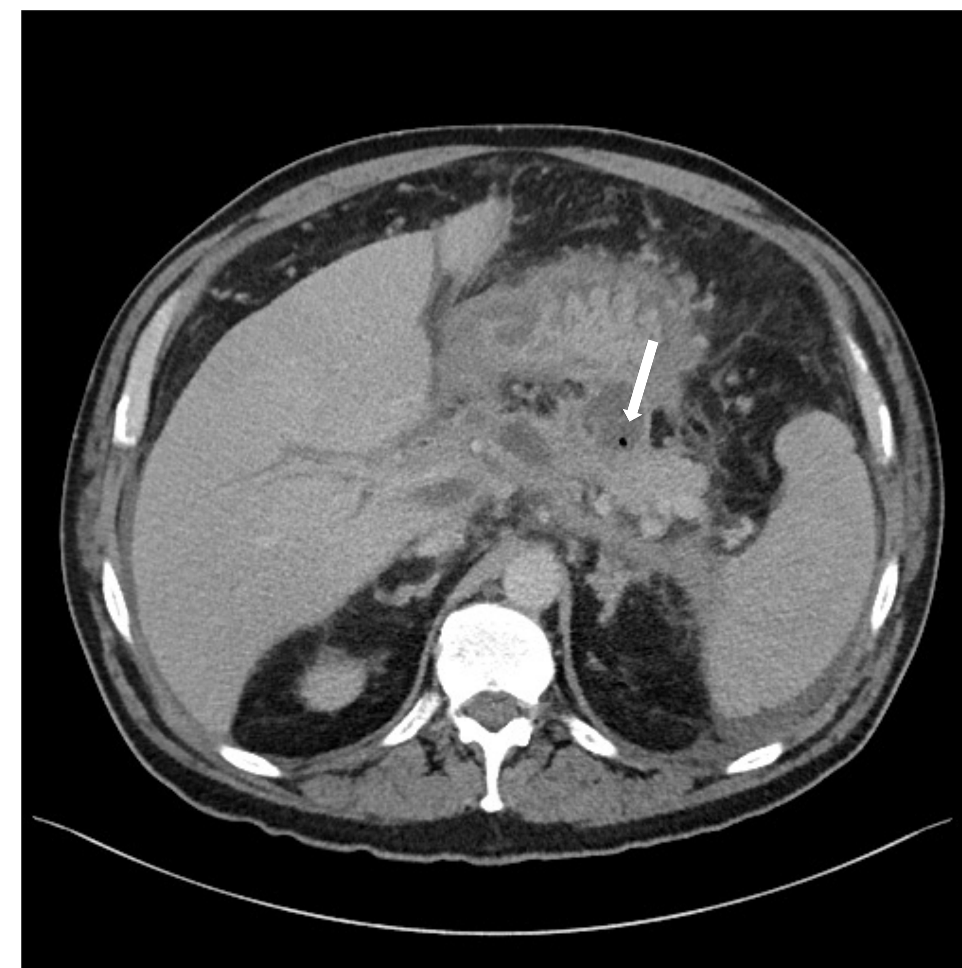

Figure 1B

One of two foci of air in the collection at the anterior superior aspect of the pancreatic body. Appears inseparable from the posterior wall of the gastric body, concerning for fistulous involvement.

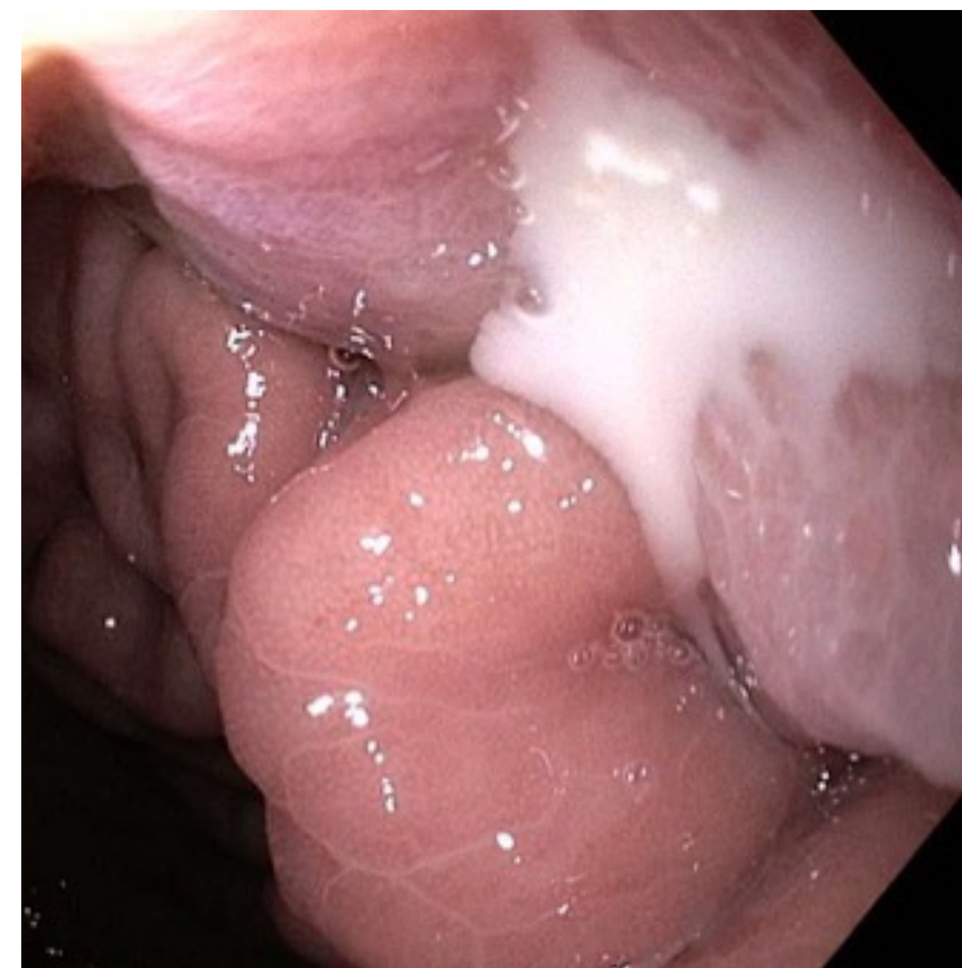

Figure 1C

Area of white “milky” base in the posterior wall of the incisura angularis. This area was rinsed, however re-accumulated despite no obvious opening seen.

DISCUSSION

Although portal hypertension normally presents in cirrhotic patients, it may rarely present in the absence of cirrhosis by conditions such as portal vein thrombosis or portosinusoidal vascular disease. Compression of the portal vein from an acute pancreatic fluid collection is an extremely rare cause of noncirrhotic portal hypertension. Clinicians should have a high index of suspicion for complications related to portal hypertension such as ascites or varices in patients with a prolonged course of acute pancreatitis without cirrhosis.

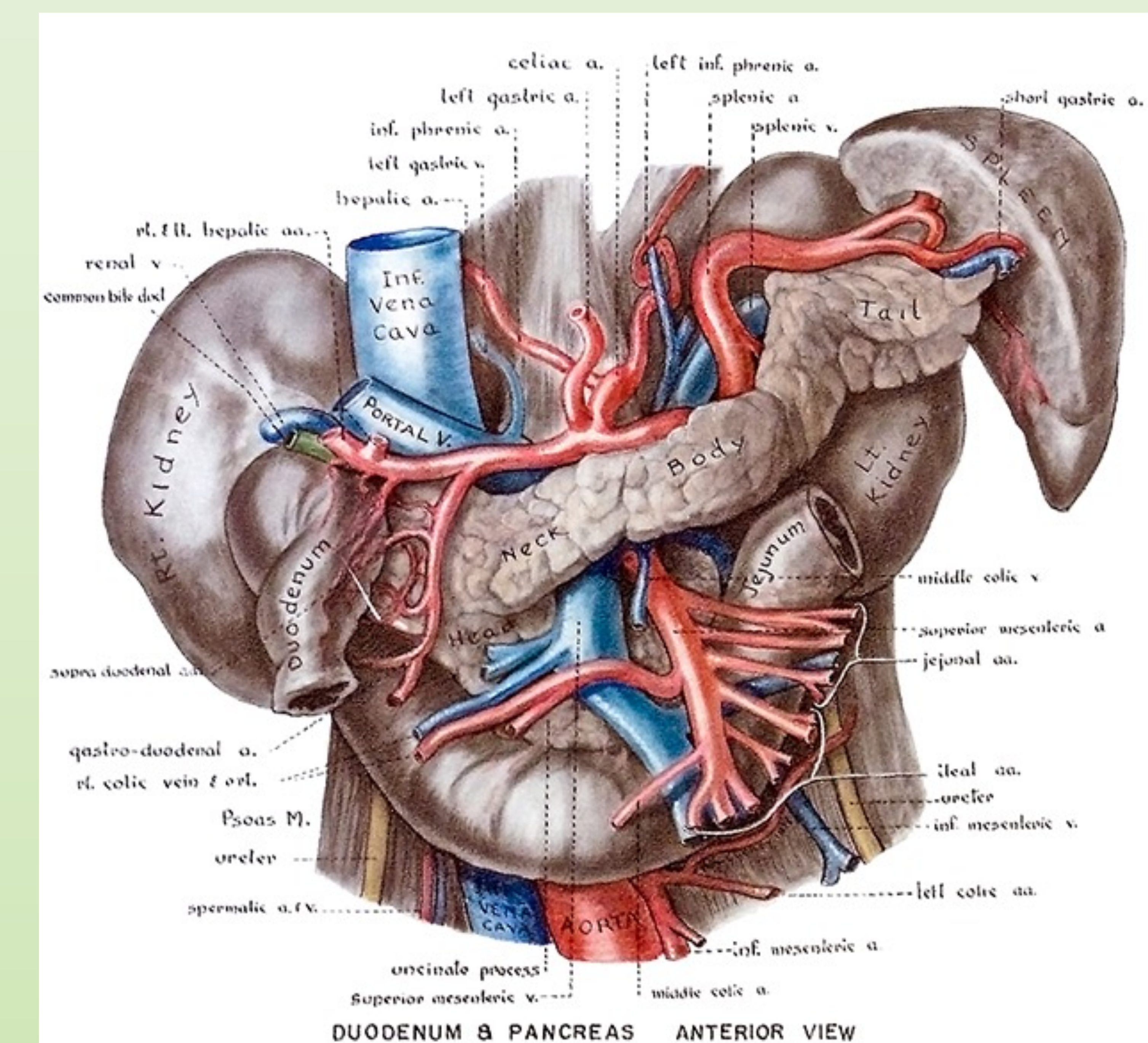

Figure 2: Illustration of the abdomen depicting the proximity of the portal vein to the pancreas.
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